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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/039,574	01/02/2002	Kellar Autumn	14134-002001	1771

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EXAMINER

AFTERGUT, JEFF H

ART UNIT	PAPER NUMBER
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1733

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/30/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/039,574

Applicant(s)

AUTUMN, KELLAR

Examiner

Jeff H. Aftergut

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 February 2007.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 24-29, 36-40 and 51 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 24-29, 36-40, 51 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Claim Rejections - 35 USC § 103

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claims 24-29, 36-40, and 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over either one of Full et al (US 6,737,160) or Full et al (US 7,011,723) for the same reasons as expressed in paragraph 2 of the Office action dated 8-11-06.

Response to Arguments

3. Applicant's arguments filed February 7, 2007 have been fully considered but they are not persuasive.

The applicant essentially argues that neither one of the references to Full et al '160 or '723 taught or suggested the use of a "flexible beam" in the processing and that the specified preload force was not identified by the references. These arguments have not been found to be persuasive and are respectfully traversed below.

Regarding the argument that neither one of Full '160 or Full '723 taught or suggested that the beam 202 was a flexible beam, the applicant is advised that the references taught beam 202 was part of a manipulator which was used to manipulate setae 26A-26D. It being noted that the individual seta found in nature have a shaft diameter of 5 microns and a height of approximately 110 microns. Judging by Figure 13 of Full et al '160 and Figure 13 of Full '723, one would have expected that the dimensions of the beam 202 was of a diameter in the order of 10 to 20 microns at the most and have a length of a hundred microns or so. It would have been expected that a beam of such dimensions would have been "flexible" as the term is a relative term and

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one skilled in the art would have understood that a beam of the dimensions specified would have had some degree of flexibility therein. The term is a relative term and applicant is advised that while the "flexible" beam "provides for an improved device" which "controls preload and orientation of the seta or protrusions" and as argued by applicant it "produced the appropriate preload force while maintaining the desired parallel alignment of the seta or protrusions with the surface to which they are applied", the claims at hand do not recite the nexus between the beam and the preload force. The claims merely recite that the preload force is applied with the beam but there is no indication that the "flexible" beam somehow produced the appropriate preload force. It should be noted that because the term "flexible" is a relative term, more specific structure (dimensions/ composition) of the beam should be defined if one wished to define over the flexible beam 202 taught by the references to Full et al.

Regarding the argument that the references do not teach the specific preload force, the applicant is advised that the manipulators of both references were capable of pick up and placement of micro machines with the device depicted in Figure 13 of each reference. Additionally, the references both envisioned and discussed at length the import of establishing a preload force to enable the device to establish an adhesive force. The applicant is advised that as the references clearly established a preload force in order to pick up and retain the components as discussed in both references, one would have expected to determine the optimum preload force in order to establish an adhesive force and pick up the components in the manner described by the references. As previously noted, such would have included a force within the specified claim range.

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It should be noted as addressed above, there is no clear nexus between the established preload force and the flexible beam (that the beam allows one to establish the specified force or that the flexibility of the beam allows one to pick up the component because it was only with the flexible beam that one was able to establish the specified preload force and maintain the same). Applicant is advised that because the references appear to manipulate the beam in the same manner as claimed to establish a preload force, it would have been obvious to one of ordinary skill in the art at the time the invention was made to determine the optimum preload force to be applied in order to work the manipulators therein in the manner disclosed (as the preload force was identified as a critical component of the pick up operation by the references). To optimize the same would have been within the purview of the ordinary artisan.

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeff H. Aftergut whose telephone number is 571-272-1212. The examiner can normally be reached on Monday-Friday 7:15-345 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on 571-272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Jeff H. Aftergut
Primary Examiner
Art Unit 1733

JHA
March 21, 2007